brought war to Egypt, and during the reign of the Ptolemies, ancient Egyptian pharmacy gradually gave way to the Greek practice, though for centuries thereafter the city of Alexandria remained a most important center of pharmaceutical development.

625 Broadway.

TRIBUTE TO DOCTOR JOHN F. BINNIE OF SAN DIEGO

CALIFORNIA BIOGRAPHICAL HISTORY

FROM the San Diego *Union* is taken the following:

"Eulogized by no less an authority than Dr. William J. Mayo, as a man who has given his country something more precious than life, Dr. John F. Binnie, noted surgeon whose health was broken in war work and who is an invalid at the naval hospital here, was honored by the California Medical Association at the general meeting of the fifty-eighth annual session at Hotel Coronado.

"The assemblage was a special one and was called the John F. Binnie meeting. Doctor Mayo presided and gave an address in honor of the great surgeon whose life work has been a beacon light to others in his profession. Doctor Binnie's accomplishments were sketched by Doctor Mayo, a fitting tribute by one great surgeon to another. Doctor Mayo said:

" 'It gives me great pleasure to take a part in this *Festschrifte* in honor of my old friend, Dr. John F. Binnie, whom I have known intimately, inside as well as outside, for more than a quarter of a century and of whose character and work I can speak from personal knowledge.

" 'John F. Binnie, born in Stirling, Scotland, the son of a Presbyterian minister, had the benefit of the virtues and economies of an austere religion when it was in its glory, but at a time when the kindliness and charity of the Man of Galilee, whom we all serve, had perhaps been forgotten.

" 'Doctor Binnie once told me, in a reminiscent mood, that he remembered as a small boy sitting in the church on the hard seats listening to almost endless discussion of doctrines, and hearing for the first time that Christ was a Jew. When he walked home with his father after the services, he said: "Father, I knew that God was a Presbyterian, but I didn't know that Christ was a Jew."

" 'The effect of that early religious education can be illustrated by a story that he told me when he returned from the war. He said that the division to which he was surgeon had three chaplains—a Presbyterian, a Methodist, and a Catholic—and that during the tragedies of the war these three men found themselves closely drawn together in their work among the wounded and the dying. When the war was over and they were to separate to go home, the Presbyterian minister, in bidding the others good-by, referred to their mutual work in the division and said: "Little did I think that the time would ever come that I should meet with a Methodist and with a Catholic on terms of equality, but we have been broadened and we all have been doing the Lord's work, you in your way and I in His way."

" 'I speak of these things because the qualities that have impressed me most in my association with Doctor Binnie have been his humor, his charity, his loyalty to his friends, and his tolerance.

" 'Doctor Binnie, educated in Aberdeen, came from the Scottish school of surgery which has always been recognized as the anatomical school, surgery based on anatomy. Nowhere in the world are finer surgical dissections made than in Scotland. France is the only country that has accomplished work in surgical anatomy at all comparable with that done in Scotland. The French have the intuition, the ready marshaling, almost subconsciously, of their knowledge, and the brilliant technique which produced a Pasteur. The German school of surgery is based on pathology, patient study of the minute, industry in gathering together the smallest facts, the school which produced a Virchow. England is distinguished by the school of clinical investigation, the school that produced Richard Bright, Thomas Addison, and Osler.

" 'John Hunter was a Scotsman trained in England, Lister an Englishman trained in Scotland. Each was an anatomically trained clinical investigator, and marked an epoch in the science and art of surgery.

" 'Doctor Binnie reads French and German, and has a working knowledge of the literature of Spain and Italy. He has traveled widely. He came to the United States at a fortunate time for us. His great worth as a surgeon and as a teacher was recognized by the American medical profession, and he aided the American school of surgery to become, in the best sense, cosmopolitan. He is an honored member of all the great surgical associations. His words in discussion always have been listened to with respect, and he is beloved personally by the practitioners of our art.

" 'As a writer Doctor Binnie is seen at his best in his many articles on surgery published in medical journals, and as the author of a great textbook on operative surgery. Written with the precision and clear understanding of Greig Smith (author of a textbook on abdominal surgery), with the judgment and surgical philosophy of Jacobson (author of a textbook on operative surgery), in his own inimitable style, Binnie's "Manual on Operative Surgery" has no equal in present-day literature. In it he has given only brief descriptions of the common operations such as may be found in any standard textbook, but for the proper surgical procedures in little known and rare diseases and conditions and their complications, one turns to Binnie's Operative Surgery with a confidence which is justified.

" 'When during the Great War the surgeon-general's office asked Doctor Binnie to go abroad to take charge of a surgical division which was having internal dissension and troubles, he went

to the front with magnificent courage and with that tact and tolerance which one would expect from him. The result has been our greater knowledge of war surgery. He returned home, having given that which is more precious than life, his health, for the country in which he was born and the country of his adoption.'"

CLINICAL NOTES, CASE REPORTS AND NEW INSTRUMENTS

AGRANULOCYTIC ANGINA

REPORT OF CASES

By JOHN MARTIN ASKEY, M. D.
Los Angeles

AGRANULOCYTIC angina is a clinical syndrome associated with actual or functional aplasia of the granulocytic centers of the bone marrow. The blood shows a typical dearth of granulocytes. Usually oral lesions are present. Instead of a distinct clinical entity, it has been more recently regarded as a syndrome which may be produced by any myelotoxin acting primarily on the granulocytic centers. In the majority of cases, however, the cause is obscure.

Arsenic poisoning has produced the clinical picture.[1] [2] If the bone marrow involvement affects the red centers and the platelet centers, a rapidly progressive aplastic anemia with bleeding symptoms occurs.[3]

Duke [4] considers agranulocytic angina as merely a type of aplastic anemia with selective action on the granulocytic centers, fulminating infection usually causing death before further bone marrow involvement occurs. The anemia of aplastic anemia thus usually does not develop.

We wish to report three cases, of which two recovered, and one progressed to death from an aregenerative anemia.

REPORT OF CASES

CASE 1.—Mrs. H., age forty-one, entered Saint Vincent's Hospital December 4, 1927. For the past year she had not been well, tiring easily. In April 1927 she suffered from bilateral furunculosis of both external ear canals. This finally responded to administration of an autogenous vaccine. While at dinner on Thanksgiving Day she noticed a scratching sensation of the throat. This continued for a week without great pain or discomfort. Dr. William Walters then observed slight erosion of the arytenoid cartilages but no tonsillar or pharyngeal lesions. The next day her temperature rose to 104 degrees, she had a severe chill, and was removed to the hospital. She complained of severe headache, pain in the back, and nausea. Swallowing now was extremely painful, and examination revealed shallow punctate aphthous-like erosions over the tonsils and buccal mucosa. Blood count on December 5 revealed 2.77 million red cells, 1590 white cells, with 34 per cent polynuclear cells and 66 per cent lymphocytes. Urinalysis showed moderate albuminuria and hyaline and granular casts. There was moderate anisocytosis and poikilocytosis. There was no apparent platelet reduction on the smear. The bleeding and clotting time were normal, the clot retracted normally, and the tourniquet test was negative. Blood Wassermann test was negative.

Physically the patient was a frail woman obviously anemic without any petechiae or purpuric spots. There was no bleeding or oozing of the gums. There were no cervical or inguinal gland enlargements nor was the spleen palpable.

On December 5, her condition being precarious, she was given 500 cc. of 10 per cent glucose solution intravenously. Fever continued between 103 and 104 degrees. On December 9 she was given a direct blood transfusion of 275 cc. without improvement. Again December 11 she was given 300 cc. of blood by direct transfusion. She became worse; the ulcerative lesions involving more of the mouth and lower lip. Smears of the throat had shown no Vincent's spirochetes nor fusiform bacilli. Cultures revealed only a pure culture of *Staphylococcus albus.* Blood cultures had shown no growths.

At noon, December 14, she suddenly became worse, her pulse accelerated and became weak, vomiting came on, which continued throughout the afternoon. In the evening she became stuporous and seemed moribund. The temperature was 102 degrees. The pulse was 130, weak and compressible. The condition seemed hopeless and, as a forlorn hope, adrenalin (10 minims) hypodermically every three hours was ordered. It had been used formerly in a case of aplastic anemia and apparently had stimulated the bone marrow.[8] Coincidentally, she improved, the temperature the next day was normal, the patient was mentally alert and her vomiting had stopped. The ulcers of the mouth and lip gradually disappeared and were gone by December 19. There was a slight increase in the total white count to 2385, and a relative increase of the granulocytes to 48 per cent. It appeared that the patient was recovering.

On December 21, after a week of normal temperature, she developed a crop of sore, tender nodular lesions on the arms, head and neck, typical of erythema multiforme. Temperature rose to 101 degrees. She developed aching pain in the elbows and knees.

On December 31 she again complained of sore throat, and examination revealed a grayish white membrane over both tonsils. It was a dirty, ragged membrane, differing from the aphthous-like ulceration of the former throat involvement, and would have suggested diphtheria if seen for the first time. A throat culture was negative for diphtheria, but a pure growth of *Staphylococcus aureus* was obtained. Smears were negative for Vincent's spirochetes or fusiform bacilli. The membrane spread during the next four days, then began receding, and on January 9 was entirely gone. The erythematous nodules had disappeared and the temperature had dropped. On January 12 the white count was 3329, the granulocytes had risen to 56 per cent, and hemoglobin was 56 per cent. Subjectively, the patient had no complaint save weakness. Despite subjective improvement, however, weakness and a pallor were definitely increasing and a red count on January 15 revealed 2.04 million cells. On January 15 liver extract was started by mouth and continued daily. On January 18 the red cells were 1.55 million, the white count 1460, the hemoglobin 35 per cent, and the granulocytes reduced to 44 per cent. There was marked achromia, but little or no variation in size or shape. There were no nucleated red cells; the platelets apparently were decreased. A rapid destruction of red cells was occurring without any attempt at regeneration by the bone marrow.

On January 20 the red cells were 1.15 million. The lips and mucous membranes appeared bloodless. Increased fragility of the red cells was demonstrated in salt solution, laking occurring in a .5 per cent salt solution, with complete hemolysis at this concentration. A transfusion of 300 cc. of whole blood on January 21 failed to help her. On January 24 a rectal ulcer appeared and became deep and necrotic in the next few days. On January 26 she again was transfused which was followed by a chill. A count on January 30 showed only a .9 million red cells. The patient lapsed into a semicomatose condition, arousing at intervals. On February 17 minute petechiae first appeared under the tongue. The last blood count on February 24 showed .78 million red cells, 1400